ARCADIAN

VOLUME 2 Number 7

May 19,1980

SANTA CLARA COMPUTER SWAP MEET at the Fairgrounds, San Jose on June 1. I will have Booth 102 and show off some ARCADIAN programs plus some new goodies, like a prototype of PROJECT 4. If you are in the area, stop by for a chat.

STATUS of various PROJECTS:

PROJECT 1 is the S-100 interface. Printed circuit boards are in the process of being etched, and when completed will be inspected, a couple wired up to ensure 'no glitches', and readied for distribution. Seems like August is still a good date.

PROJECT 4 has been upgraded somewhat. It will be a "hang-on" memory of 4K capacity. The memory box will fit onto the 50-pin connector and be supported by it. An external power supply (wall type) will plug into a socket(and keep the memory alive even if the Bally is turned off).

In addition to the RAM, there is a small amount of ROM that controls two sets of 8 input/output ports. All this can be accessed via the BASIC cartridge. Two programs will come with the kit - a utility program that allows machine code programming in hex, and the ability to dump from the extended memory to tape. The second will be a demonstration type with a number of experiments to show how the unit works, as well as a diagnostic routine for the PROJECT itself. Two switches are provided - to locate the extended memory (at 2000H or 6000H), and to protect the memory if desired.

Complete kit cost will be $130. Wired-up units will also be available as we received a nice response from ARCADIANs interested in doing this kind of work. (No negotiations have been made with any of them as yet.) The unit can be bought without the power supply ($10) or without the RAM (at $15/1K), resulting in a minimum cost of $60. All RAM is socket-mounted, and we expect to be able to supply ROM later on when there is enough utilization of the PROJECT to determine what should be included.

Early July is the expected date when the kits will be available. I will have an early unit at the 1 June Flea Market.

MUSIC Included in this issue is a paper written by George Moses, based on some fundamental research done by Brett Bilbray. Brett had sent me an interesting scheme to access the three-tone music system via the BASIC language, and I was considering how to present this, when George told me of the work he has done in smoothing over the rough edges and simplifying the technique. Pages 62 and 63 contain his inputs. I feel that this important work by Brett will enable us to add a little something to the programs that are developed in the future, with music old and new.

RF MODULATOR I just found a small box of these at a local electronic salvage shop. Not many available, and they are $20, working.

ARCADE FUTURE Bally is still discussing the sale of the Arcade machine, but names of possible purchasers are not available.

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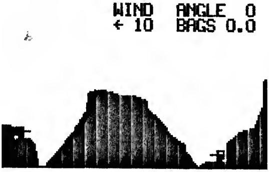
REVIEWS



```
WIND   ANGLE 0
← 10   BAGS 0.0
```

ARTILLERY DUEL is an intriguing game by John Perkins. The machine sets up a random ground and adds two gun emplacements. As each player's turn is taken, he adjusts the knob for barrel elevation, moves the joystick to add or reduce the number of powder bags (by whole bags sideways; by tenths, back and forth). Then when ready, pull the trigger. There is gravity and a random wind. Anyway, the gun recoils and there goes the shell. There is an explosion when it lands. A gun is destroyed when less than half a gun remains (the repair crew can replace a gun barrel) The program usses all available space - don't enter lines 3 & 4. Be sure to exercise the joystick to see how the variables work.

……

Name of Program: ARTILLERY DUEL Cassette Name:
Description: Artillery duel between two players
Source: JOHN PERRINS (ARCADIAN V2 #7) Price —
Reviewed By: R.m. HOUSER Age: 42
Ratings : PD= 9 PP= 7 USF= 8 LC= 7 OC= 7 LI= 7 EV= 2 EU= 9 OV= 5 TP= 61 SZ=
Time to Play Variable For Ages 8up # of Players 2

The above review scores are included this time to enable you to compare your thoughts about the game with the reviewer's so that you'll have an idea of his standards in future reviews.

STARFIRE by Tim Hays uses a user-defined subroutine to generate the enemy spacecraft, enemy refueling station, and a meteor/planet. The object is to fire a laser at those targets and avoid being hit by return laser fire. Many ideas used in this program can be used in more innovative programs.

……

Name of Program: STARFIRE Cassette Name:
Description: SHOOT DOWN ALIEN SHIPS WITHOUT GETTING HIT
Source: SEBREES COMPUTING 456 GRANITE MONROVIA CA 91016 Price 6.50
Reviewed By: R.M. HOUSER Age: 42
Ratings : PD= 9 PP= 8 USF= 8 LC= 9 OC= 8 LI= 7 EV= 2 EU= 7 OV= 7 TP= 65 SZ= 1
Time to Play 5 MIN For Ages 8 up # of Players 1

BOOK REVIEWS In the last issue, I listed three books that owners would find of value. With the wide range of expertise that our subscribers have - from one end of the spectrum to the other - I feel that recommendations should be modified. In the reviews below, I supply a rating that extends from 0 to 100, where 0 indicates that the book would be useful to one who knows nothing about computers or their language and needs a lot of help. At the other end is 100, for the reader who is an expert. I have looked over two of the books mentioned: #21609 Z-80 Microprocessor, Vol I says that it requires no background, but it does, and it also moves too fast. In addition, it is written to be used with a specific computer, the SGS-ATES "Nanocomputer", so there are a number of items that pertain only to that system, and the reader has to separate these. I would rate this book as a 40-80.
#21610, same title, Vol II tkaes off where the other ended, so rate it 80-100.

```
  3 .ARTILLERY DUEL
  4 .BY JOHN PERKINS
 10 :RETURN ;FOR A=0TO 9;@(A)=0;NEXT A
 20 CLEAR ;H=RND (50)-44;A=-80;T=RND (9);LINE A,H,4;I=H
 30 A=A+RND (10);H=H+RND (9)-T;IF H<-44H=-44;T=4
 40 IF H>-10T=6
 50 T=T+(T>5)b2-RND (3)+1;IF A>78A=79
 60 LINE A,H,1;IF A#79GOTO 30
 70 H=I;W=RND (51)-26
 80 FOR A=-80TO 79;LINE A,-44,4;IF PX(A,H)GOTO 120
 90 FOR Y=1TO 60;IF PX(A,H+Y)H=H+Y;GOTO 120
100 IF (PX(A,H-Y)=0)+(H-Y<-44)NEXT Y
110 H=H-Y
120 LINE A,H,1;NEXT A;S=RND (2)b2-3;G=RND (3)+2
130 FOR P=0TO 5STEP 5;X=RND (31)-75+(P=5)b120;FOR H=-44TO 20;IF PX(X,H)NEXT H
140 Y=H+RND (5)-3;IF Y<-40Y=-40
150 BOX X+(P=0)b4-2,Y+4,11,15,2;BOX X,Y,5,5,1;BOX X+(P=0)b2-1,Y-3,3,1,1
160 LINE X,Y,4;LINE X+(P=0)b12-6,Y,1;@(P+1)=X;@(P+2)=Y;NEXT P
170 P=(S=1)b5;C=Pc5+1
180 FOR N=1TO 11;BOX @(P+1),@(P+2)+1,3,1,3;NEXT N;NT=1
190 W=W+RND (9)-5;CX=-9;CY=40;PRINT "WIND";CX=-9;IF W TV=95+(W>0)b2
200 PRINT #3,ABS(W)
210 CX=Sb51-22;CY=40;A=@(P+4);PRINT "ANGLE",#3,A
220 CX=Sb51-22;B=@(P+3);PRINT "BAGS ",#1,Bc10,".",RM
230 IF TR(C)GOTO 350
240 K=(KN(C)+128)bS+(S#1)b255;IF ABS(K-E)<10GOTO 300
250 E=K;A=Kc15b5;@(P+4)=A;CY=40;CX=Sb51+8;PRINT #3,A
260 GOSUB 280;X=@(P+1);Y=@(P+2);LINE X-3bS,Y,4;BOX X-5bS,Y+4,5,9,2
270 K=Kc100;J=RM;LINE X-(3+Kc25)bS,Y+Jc25,1;GOTO 300
280 GOSUB 500+Ab2b(A<45)+(90-A)b2b(A>40);IF A>45K=Kc100+RMb100
290 RETURN
300 IF JX(C)=0IF JY(C)=0GOTO 230
310 B=B+JX(C)b10+JY(C);IF B<0B=0
320 IF B>99B=99
330 @(P+3)=B;CX=Sb51+8;CY=32
340 PRINT #1,Bc10,".",RM;GOTO 230
350 BOX 0,36,159,16,2;BOX @(P+1),@(P+2)+1,3,1,1
360 GOSUB 280;X=Kc100;Y=RM;R=9
370 X=-(XbBc100)bS+Wc2;Y=YbBc100
380 I=(@(P+1)-3bS)b10;J=@(P+2)b10;FOR N=15TO 1STEP -1;&(21)=32;&(23)=Nb16;NEXT
N
390 U=Ic10;V=Jc10;BOX U,V,1,1,3
400 K=U;L=V;Y=Y-G;I=I+X;J=J+Y;U=Ic10;V=Jc10;BOX K,L,1,1,3;BOX U,V,1,1,3;IF ABS(
U)>79BOX U,V,1,1,2;U=99;GOTO 430
410 IF V<-40V=-40;GOTO 430
420 IF (PX(U,V))+(V>20)GOTO 400
430 LINE U,V,4;FOR N=240TO 0STEP -16;&(23)=N;BC=RND (3)b13+86
440 LINE U+RND (R)-Rc2-1,V+RND (R)-Rc2,2;NEXT N
450 BC=7;T=0;E=(S#1)b5;U=@(E+1);V=@(E+2);FOR X=U-2TO U+2;FOR Y=V-2TO V+2;IF PX(
X,Y)T=T+1
460 IF T>13S=-S;GOTO 170
470 NEXT Y;NEXT X;IF R=9R=19;GOTO 430
480 @(P)=@(P)+1;PRINT #5,@(0),"    DESTROYED",@(5)
490 FOR N=0TO 3000;NEXT N;GOTO 20
500 K=9900;RETURN
510 K=9908;RETURN
520 K=9817;RETURN
530 K=9625;RETURN
540 K=9334;RETURN
550 K=9042;RETURN
560 K=8650;RETURN
570 K=8157;RETURN
580 K=7664;RETURN
590 K=7070;RETURN
```

SALVAGE BOARDS We have repaired four of these locally, and have found the following failures: 1 Z80 chip bad; 1 I/O chip bad; 3 ROM chips bad. Some soldering was poor. The boards apparently went through an initial attempt at repair, but when they continued to fail they were set aside. I would like to know the experiences of those who have been purchasing the boards, and especially if you develop a new use for them. Boards have been sent to those including checks, others who indicated interest had best send a check to get one of the remainder. I can't afford to maintain an inventory here so I expect my supply to be low. Price is $25. per.

MEMORY TUTORIAL 4

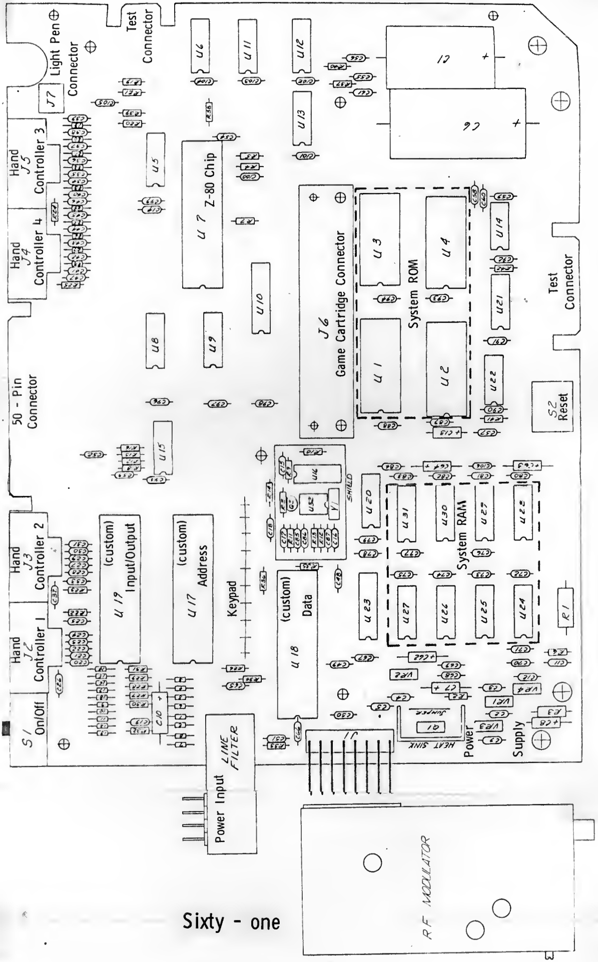
The basic operator is a clock, or frequency generator which, in this computer, puts out 1,789,000 pulses per second. The purpose of the clock is to enable things to take place at a known and constant rate.

The Z80 CPU 'talks' to its memory bank and the world through a set of 'lines' (connections) known as "READ", "WRITE", "ADDRESS", and "DATA". The memory bank has a set of power connections to keep it warm, and the general operation is that the CPU sends a signal consisting of the ADDRESS (locating a specific mail box in memory), then the DATA, and then the command to either READ or WRITE. The signal always has the same format and each signal has the same length and takes an equal amount of time to operate - per the clock.

The figure shows a layout of the major portions of the Bally printed circuit board. The memory areas of interest are enclosed by a dashed line, and entitled System RAM and System ROM. In addition, the Z-80 is identified as are the three custom chips. System ROM takes two physical forms: either the four chips U1 through U4 as shown in the diagram; or as one chip four times as large (in capacity) in location U2. The other three spaces are blank.

THE BASE OF 256 In order to save space, the addressing system uses eight on-off switches in parallel to create 256 possible combinations, as follows: Each switch can be either on or off (closed or open) and are so indicated by 1 or 0. Therefore, one switch has two positions, or states. Two switches have four possible combinations of on and off, depicted by the convention 00 01 10 11. (both open, one open, the other open, both closed) This leads to the formula where the number of states is equal to 2^n, where n is the number of switches. For eight switches, these combinations total 256, because $2^8 = 256$. Since the first position is all open, or 00000000, then the last position is 11111111, all closed. The first is 0 in decimal notation, the last is 255. In hex they are 00_H to FF_H. In speaking of a location as, for example, $6D_H$, one means that the eight switches are set to 0110 1011.

Each 'batch' of eight switches that can be set from 0 to 255 is called a PAGE, and the computer is built up of pages. Partial pages exist only rarely, and most computers have memory built in blocks of four pages. Four times 256 is 1024, commonly called 1K. So we have 4K, 8K, 64K memories.


Light Pen Connector
J7
Test Connector
U6
U11
U12
U13
C2
C6
Hand Controller 3
J5
Hand Controller 4
J4
U5
U7
Z-80 Chip
U10
J6
Game Cartridge Connector
U3
U4
U1
U2
System ROM
U14
U21
U22
Test Connector
S2
Reset
50 - Pin Connector
U8
U9
U15
U16
U32
Y1
SHIELD
U20
U31
U30
U29
U28
System RAM
U27
U26
U25
U24
U23
R1
Hand Controller 2
J3
Hand Controller 1
J2
U19
(custom) Input/Output
U17
(custom) Address
Keypad
U18
(custom) Data
S1
On/Off
C10
J1
JUMPER
Q1
HEAT SINK
VR1
VR2
VR3
VR4
Power Supply
Power Input
LINE FILTER
RF MODULATOR

Music Input Program Plays 3-Tone Music in Basic

Tutorial By George Moses
Program by Brett Bilbrey, modified by George Moses and Bob Weber

```
1.12345678901234567890123456789012345678901234
5678901234567890123456789012345678901234567890123456789
01234567
```

Line 1 is what is called a "REM" statement. That is, a line number followed by a period, then some information. When a period follows a line number, anything after the period is completely ignored by the computer. However, anything following the period takes up memory space, and if we poke data into these memory locations and remember which locations the data occupies, the computer can go back and read the data later through the peek function and perform the program instructions using this information to play music, do graphics or anything you tell it to do. Storing data in the text area of the Bally (memory locations —24576 thru —22777) isn't a new idea. It was brought to light thanks to Dave Ibach's excellent tutorial on the subject, page 78 Arcadian 1979. ***You can put up to 14 REM statements in this program with exactly 97 numbers after the period. Number them 1 thru 14 and don't forget the period. The rest of the program follows. REMEMBER the character "c"means divided by, and the character "b" means times as the printer doesn't have the × and ÷ signs.***

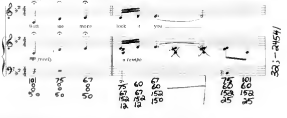
```
  50 CLEAR ;E=-24573;Z=0
  60 PRINT #1,Z,":",E+Z,"=",;INPUT " "J;IF J>256GOTO 100
  65 J=J-127;IF J<0J=J-1
  70 %(E+Z)=J
  80 Z=Z+1;IF Z>95Z=0;E=E+101
  90 GOTO 60
 100 INPUT T;IF T=0NT=3;GOTO 60
 105 NT=0;&(16)=49;&(22)=136;&(21)=15;FOR A=-24574TO -23160STEP 101
 110 FOR C=ATO A+92STEP 4;&(17)=%(C)c256+127;&(18)=%(C+1)c256+127;&(19)=%(C+2)c2
56+127
 120 FOR D=1TO (%(C+3)c256+127)bT;NEXT D
 130 IF C>E+Z-8GOTO 150
 140 NEXT C;NEXT A
 150 &(21)=0;&(22)=0;&(16)=0;&(17)=0;&(18)=0;&(19)=0
 160 NT=3;GOTO 100
```

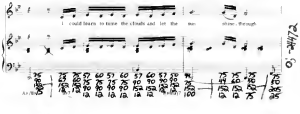
Now get yourself some sheet music and start programming music. See the sheet I've included for an example. The columns of four numbers under each note played each constitute a chord of three notes (the top three numbers) plus a duration input (the bottom number). The duration input allows you to play any length of note required by the sheet music. See the note and duration input chart at right.

Now, run the program and you'll see the numbers 0; —24573 at the top left of your screen. That's the memory location of your first note input to the A voice of your sound synthesizer. Put the number of the note you want in voice A and hit GO. Then the next memory location will come onto the screen and wait for you to input the note value for the B voice, and next you'll input the C voice. Then, the fourth input will be your duration value for that chord of notes.

So, there are four inputs for each chord. If a chord has only one note (or no notes as in a rest) just input zero into the voices you wish silent. IMPORTANT! If you input the same note into the same voice in two consecutive chords the result will be one continuous note carried for two beats, or as many beats as you wish to carry it out. Often this is desirable, but if you want the same note played two distinct times consecutively, then you must switch voices, playing the next note in the other register and set the first register to zero or use it to play another note in the chord. You'll see some examples of this on the sheet music I included. In the second measure you'll see the note C (67) carried out for two 16th notes in a row in the same register making it a continuous note, while I swapped registers with the B (60) to play two distinct notes consecutively.

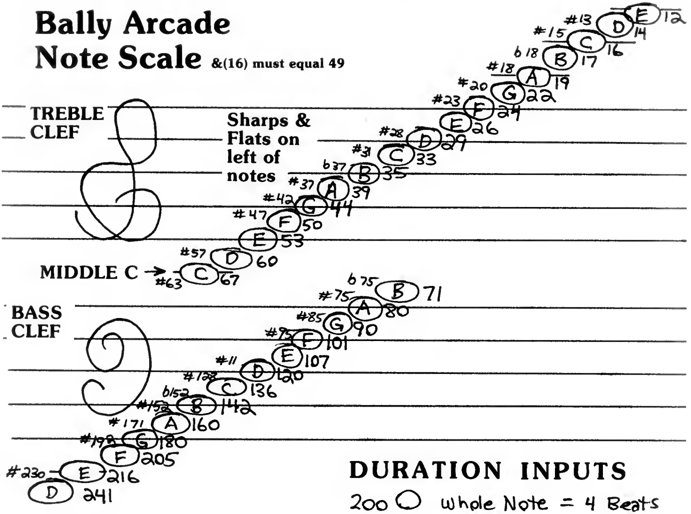
Now, go ahead and input the numbers in the sheet music going top to bottom on the columns under each note. When you get to the end of the first bar your last memory location number on the screen should be as noted in the right margin of the sheet music 32; —24541. Now, INPUT any number larger than 256 and the computer will automatically GOTO 100 and prepare to play the music. Input T. 1 will make it play the fastest. A larger T will make it play slower. The music will play up to the end of your data and stop. This way you can proofread what you've input up to that point. The program will ask you to input T again. If you want to hear the music again input T and hit GO. But, if you want to resume inputting data input zero, hit GO and you'll automatically GOTO line 80 to take up where you left off.




I could learn to tame the clouds and let the sun shine. through
A♭/B♭
B♭7
E♭maj7
0;-24472

Bally Arcade Note Scale

&(16) must equal 49



DURATION INPUTS

200 𝅝 Whole Note = 4 Beats

100 𝅗𝅥 Half Note = 2 Beats

50 ♩ Quarter Note = 1 Beat

25 ♫ Eighth Note = ½ Beat

12 ♬ Sixteenth Note = ¼ Beat

6 𝅘𝅥𝅰 Thirty Second = ⅛ Beat

What about correcting mistakes? Simple. Just input the memory location of the beginning of that bar and input the data again. Say the first bar was wrong. Just HALT the program and type in the beginning memory data like this: Z = 0; E = —24573—Z;GOTO 60 and this will get you back to the beginning of the first bar. For this purpose it's advisable to put the last memory readout at the right margin of each bar as per the example included. The numbers at the end of the first bar would get you set up at the beginning of bar 2 if you were to have a glitch there and needed to input the correct data. It is IMPORTANT to proof-listen to each bar before going on because you cannot input corrections in the middle of a song. You can start in the middle, but you have to keep inputting data till the end. The Bally looks at two bytes of memory at a time when inputting and while you correct one note, you're creating a glitch in one of the following notes, so you have to keep rolling to cover up the whole performance perfectly.

After you input your last note you should alter line 130 to read the ending location to stop the music at the end of data. If you don't you'll get some awful sounds when the computer runs out of notes to play. Just halt the program and ask the computer to PRINT E + Z·8. The answer will be a nvgative number. Take this number and put it in line 130 in place of the E and Z-8 variables and you have a complete program.

Another line you may want to change for convenience is line 100. Once you decide the best value of T for that song, just set T equal to that number permanently in the line. Also you may want to do the following with line 160 FOR M = 1 TO 2000; NEXT M; GOTO 100. This will give you a five second delay at the end of the song and automatically begin the music again.

To save on tape with automatic RUN just get your recorder ready, then type in *NT = 1;CLEAR;:PRINT;LIST; PRINT":RETURN;CLEAR;NT = 0;GOTO 100*
Turn on your tape recorder, then hit GO and watch it list. The listing of the REM statements will be mostly question marks, but don't worry. The computer understands what they are through the peek command in the program. Any questions or new discoveries about this music program will be welcomed by all of us of the Bally Users' Group of Michigan at 110 E. North St., Brighton, Michigan 48118.

```
  1 . PUZZLE
  2 .BY BOB WISEMAN
  3 .PLAYS LIKE "15 PUZZLE",
  4 .USING JOYSTICK TO MOVE LETTERS
  5 FC=11
  7 V=400
 10 CLEAR
 12 NT=1
 15 BOX -2,0,75,75,1
 16 BOX -2,0,73,73,3
 20 E=0;A=25
 30 FOR Y=1TO 24
 31 @(Y)=Y+64
 35 GOSUB 400;NEXT Y
 40 @(25)=32;GOSUB 400
 50 IF TR(1)=1U=1
 60 IF E=0B=RND (4);GOTO 100
 70 I=JX(1);J=JY(1)
 80 IF I=0IF J=0GOTO 70
 90 IF IIF JGOTO 70
 91 B=0
 92 IF J B=J+2
 94 IF I B=3-I
100 X=A-Ac5b5
110 IF B=2IF X=1GOTO 300
120 IF B=4IF X=0GOTO 300
130 IF B=3IF A>20GOTO 300
140 IF B=1IF A<6GOTO 300
150 IF B=1D=A-5
160 IF B=2D=A-1
170 IF B=3D=A+5
180 IF B=4D=A+1
190 X=@(D);@(D)=32;@(A)=X
192 IF E=1GOTO 200
193 V=V-1;A=D
194 IF V<200FOR Y=1TO 25;GOSUB 400;NEXT Y;E=1;GOTO 50
196 GOTO 50
200 Y=D;GOSUB 400
210 Y=A;GOSUB 400
220 A=D
221 IF U=0GOTO 50
222 U=0
225 Y=0
230 FOR X=1TO 25
235 IF X=AGOTO 250
240 IF @(X)<YGOTO 50
245 Y=@(X)
250 NEXT X
260 FOR X=1TO 25
270 MU=X;NEXT X
280 GOTO 5
300 IF E=0GOTO 50
302 FOR X=1TO 5
305 MU=X;NEXT X
310 GOTO 50
```

```
400 MU=@(Y)
405 Z=Y-1
410 CX=-30+(Z-Zc5b5)b13
420 CY=30-Zc5b14
430 TV=@(Y)
440 RETURN
```

HARDWARE REVUE by R.M. Houser... The Computer Ear, manufactured by Anderson Research and Design, 1611 Lacota Lane. Burnsville MN 55337.price $49.95

The Computer Ear is a speech recognition input device for the Bally Arcade. The unit consists of a microphone and electronics which produces a signal which is then fed into the #4 port via an optical coupler, and digitized and stored in the Bally. Several different speech inputs may be stored by this method and later be compared to a real time input and be deciphered. If a comparison is made, a signal is produced by the software which can be used in a program.

As speech recognition units are not an exact science, this unit is not a finished product but its potentialities are vast for the person who wants to experiment. The documentation provided is excellent in regard to to the use of the unit. The exact values used for the parameters in the programs must be arrived at by experimentation using the Computer Ear and the software provided.

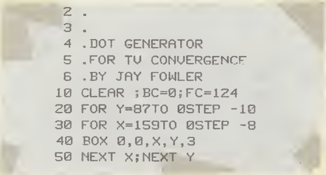
The Computer Ear is well designed mechanically as well as electrically and I think that the unit is a good buy for those of you who want to experiment with speech recognition.

TUTORIAL REVUE by R.M. Houser... DMA GRAPHICS by C.J. Anderson is a tutorial on Direct Memory Addressing (DMA) when using graphics on the Bally Arcade. This tutorial discusses the use of DMA in producing outstanding graphics. It includes several programs and a table to use in making up graphic blocks to produce graphics and animation. This tutorial would be a great help to those programmers and innovators who don't know how to do these graphic routines. This tutorial can be ordered from Anderson Research and Design, 1611 Lacola Lane, Burnsville, MN 55337 for $3. to cover duplication and mailing costs. To those who order this tutorial, please send in some of your finished routines or make them available to ARCADIANs on tape.

BOWL-A-RAMA requires a small change in line 1180 to allow the third strike in a tenth frame to take place, reports Al Rathmell. Update P just before the last command by making the latter part of the line read:

```
IF F = 11 P = P + 1; GOTO 1300
```

BLACK HOLE (p.50) Apologies are in order as I didn't realize that there was no credit given to Ron Picardi as the author of this game. The object of the game is to achieve orbit around the mystery ship with the X and Y thruster control that you have. You should be at the same speed and distance from the Black Hole as the mystery ship, says Ron.



```
 2 .
 3 .
 4 .DOT GENERATOR
 5 .FOR TV CONVERGENCE
 6 .BY JAY FOWLER
10 CLEAR ;BC=0;FC=124
20 FOR Y=87TO 0STEP -10
30 FOR X=159TO 0STEP -8
40 BOX 0,0,X,Y,3
50 NEXT X;NEXT Y
```

Ads

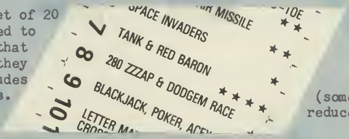
FOR SALE: Bally Arcade with STAR BATTLE,BASEBALL,FOOTBALL,MATH,LETTER MATCH, PANZER ATTACK,SEAWOLF,CLOWNS & BASIC cartridges and Cassette Interface.$400 or best offer. John Jacobson,Drawer F, Summersville, WV 26651 304-872-5994

SUPER SOFTWARE by Rob Rosenhouse. Space games, gambling games and much more. Write for program descriptions and free 'RND ART' program. 44 Forest Brook Dr. North Plainfield, NJ 07060

Checkers, ChessBoard, Hangman, Bowling, Bally's Alley (an adventure program) O-hello,Inspector Clue-so,Decode are the games available from John Collins, 713 Bradford Dr., Ft. Walton Beach, FL 32548, costing: $6 per program,$8 for two,$9 for three,or $10 for four, all on his tape. More data, listing info, etc., for an SAE

Dick Houser 635 Los Alamos Ave Livermore,CA 94550 is interested in putting out a free yearly catalog of software and hardware for the Bally, to besent to all known owners. The catalog would contain a description of the program or hardware, manufacturer's address, and prices. If interested in purchasing space in this catalog, call Dick at 415-447-8493, evenings.

EDGE TAGS for VIDEOCADES - a set of 20 sticky-back labels to be applied to the backside of the 'cades so that you can see the contents when they are in the storage slots. Includes indicator for number of players. $2.95/set. VIDEOCADE TAGS
304 NE 55th Portland OR 97213



(somewhat reduced)

FIRST CLASS

George Collins 30 Sierra Ave., Piedmont CA 94611 has INVASION $5., BUG $5., and DEEPSPACE 2050 $10. including listings, modifications, and instructions. Send for descriptive literature.

W & W Software Sales 6594 Swartout Rd. Algonac MI 48001 report that they have added a new tape to their line, making nine total.(five programs per tape)

ARCADIAN
Robert Fabris,musician
3626 Morrie Dr.
San Jose, CA 95127

FIRST CLASS

type

ERY

ARTILLIARY BATTLE is a game for two players where each player tries to destroy the other. As the random battlefield unfolds, try to imagine yourself as a gunnery sargent in charge of a large gun emplacement. A blinking of activity can be seen in your gun mount as you and your crew plan your strategy. The data (wind velocity and direction) is analyzed and it's time for your test shot. Using your vast experience you select the proper barrel angle (by turning your knob to change the barrel angle in 5 degree increments). A~~n~~ ~~exploding~~ projectile is dropped into the breach and you give the order to add the right amount of powder (by moving your joystick - left to decrease whole bags; right to increase whole bags; back to decrease tenths of bags; forward to increase tenths of bags). All is in readiness now and you give the final order: "Lights out, FIRE!". (you pull the trigger). The barrel of the big gun can be seen to recoil as the heavy shot issues forth with a bang. You wait in hopeful anticipation as the projectile swishes through the air toward its intended target. Anticipation heightens as the shot disappears into the clouds (a high shot may go off the top of the screen and reenter). Lower and lower to the ground until it hits with a colorful explosion, you know that the point of impact was a function of the barrel angle, the amount of powder and the wind. Even as your turn is over, you calculate the corrections necessary to improve the accuracy of your next shot, remembering that the wind could change. Your enemy is destroyed when his ammunition supply is hit and goes off in a second, more violent explosion. At that point the running score is also displayed. Good luck and good shooting!

Add remaining line →

The following are some HELPFUL HINTS to expand your experience:

1. Firing the gun with too little powder may cause the projectile to explode in the barrel causing injury to your own gun.

2. Shooting too high into the wind may cause your shot to fall on your own gun with similar effects.

3. You may choose to shoot over terrain or blast a tunnel through it.

④ The projectile explodes on impact whenever its "stepped" movement brings it in contact with a black spot whether it be gun, terrain, or debris. If a projectile appears to "go right through" an object, it is because none of its steps hit a black spot. This simulates a lateral miss. To correct, you must use a different angle, a different amount of powder, or wait for the wind to change.

5. Most of the explosion is upward so that a hit directly on top will not do as much damage as a hit well inside. A gun is destroyed when less than half of the gun remains (excluding the barrel). Your crew will automatically replace a damaged barrel.

6. In order to keep a super-experienced gunner from remembering the effect of various angle and bag combinations, and thus having an unfair advantage, the effects of gravity on the shot change with every game.

⑦ To be a successful gunner (other than by pure luck) it is important that you remember what the previous wind speed and direction were, such that you can allow for the effect of the new wind velocity.

2/6

PROGRAM NARRATION

010	Initializes gun parameter storage.
020-060	Draws the rugged terrain outline. NOTE this is a random terrain wich may be suitable for other games.
070	Initializes terrain fill-in and sets the initial wind velocity (negative = left; positive = right).
080-120	Fills in the terrain and selects the starting player.
130-160	Positions the guns at a random position on the terrain.
170-180	Blinks the window on the gun whose turn it is to shoot.
190-200	Calculates and displays the new wind velocity.
210-220	Prints the initial angle and bag settings for the gun.
230	Senses the trigger to begin the shot.
240-270	Accepts changes in the barrel angle and displays them.
280-290	Calculates the sine of A by look-up method.
300-340	Accepts changes in bag count and displays them.
350-380	Handles the initial shot including sound effects.
390	Initializes the shot trajectory parameters.
400-420	Carries the shot through its trajectory until it hits something or goes off the screen.
430-440	Provides the explosion of the impact.
450-460	Assesses the damage to the target gun.
470-480	Causes a second explosion for severe damage and shows score.
490	Is a delay before starting the next game.
500-590	Is a 45 degree sine table .

Respectfully,

John D. Perkins

NOTE: I AM OFFERING THIS PROGRAM TO THE CLUB AS AN EXAMPLE OF WHAT I CONSIDER A QUALITY PROGRAM. WOULD YOU PLEASE HAVE IT REVIEWED AS A BENCHMARK FOR MINE AND OTHER'S BENEFIT? I BELIEVE IT WILL HELP TO CLEAR UP SOME CONCERNS ABOUT THE SUBJECTIVENESS OF THE EVALUATIONS. I WILL COPY IT ON A TAPE FOR ANYONE FOR $2.00 HANDLING/MAILING/TAPE CHARGE IF ANYONE IS INTERESTED.

Programs For The Bally Computer System from:

George Collins
30 Sierra Avenue
Piedmont, CA 94611

All programs include several pages of documentation with listings, modification notes and instructions. Each is a high quality original program which will provide hours of entertainment.

Invasion-Given an 8 for overall value (on scale of 1-9) in the Arcadian. This is an exciting program based on the arcade Space Invaders but with many new twists. Excellent sound and graphics. Two versions on a C-10 cassette.

# of players:1 Playing time: 2-5min Price: $5

BUG!-A huge alien creature has attacked the world's largest computer and you must stop it. You can use electronic scanning pulses to help locate the creature so your security squads can destroy it before time runs out. A challenging game of skill and logic.

# of Players:1 Playing time: 7-10min Price: $5

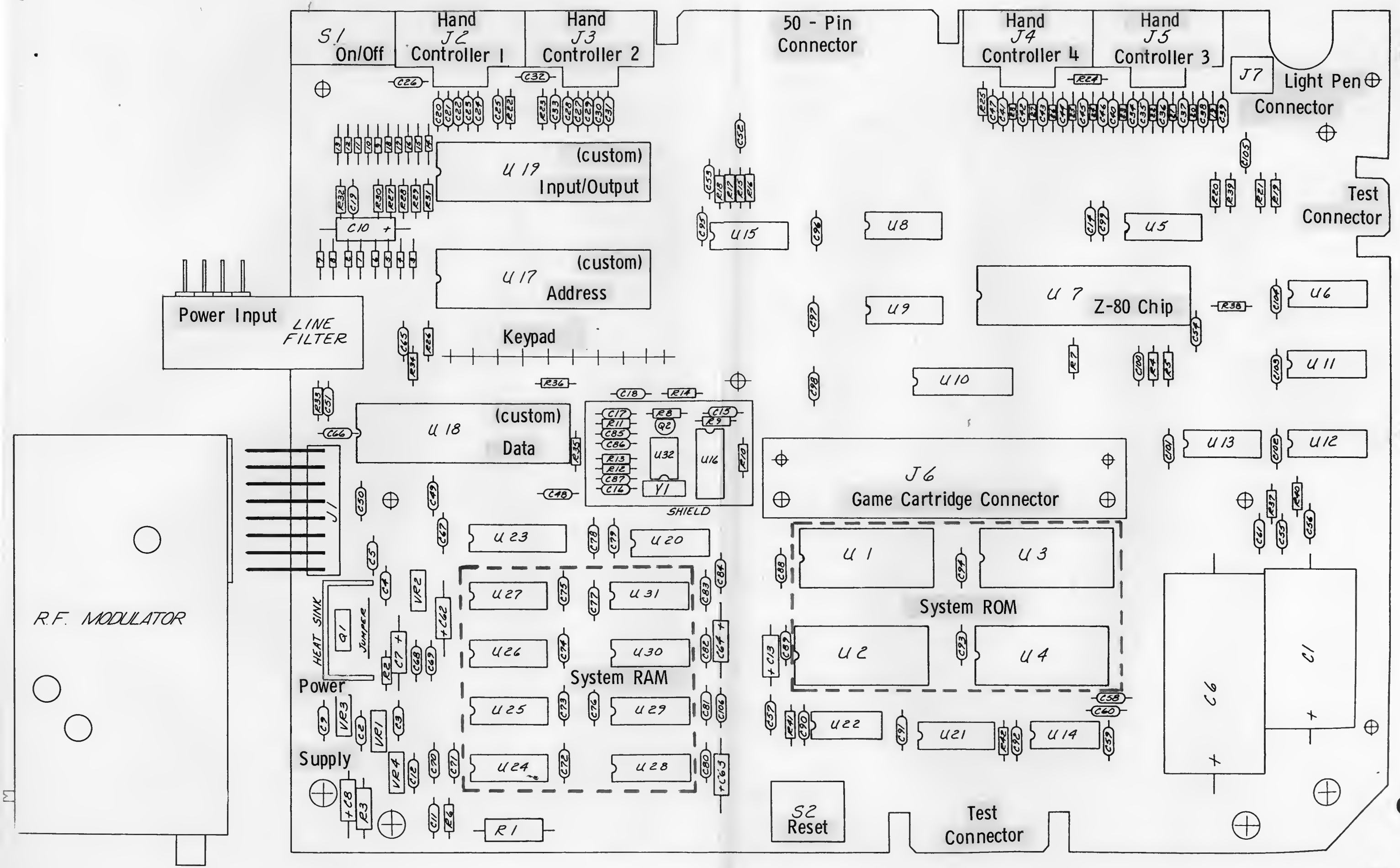
Deepspace 2050-Deepspace 2050 is a realistic tactical space wargame simulating laser dogfights between anti-matter powered spaceships. Players move their ships using realistic laws of physics then distribute their fuel to lasers and particle launchers. A builder program allows you to save a scenario on tape-one of your own or one of those included in the documentation. Deepspace 2050 allows for a lot of detail without a lot of complications and a system which has an infinite amount of variations such as meteors,freighters, yachts, etc. Here's what you get:

*Documentation including listings of scenarios, ship types and suggestions on how to create your own scenarios.
*A C-10 cassette with programs:
  Player program
  Builder program
  Scenarios: Duel & First Strike
*An extra cassette for storing scenarios
*6 player record sheets to aid play

# of Players: 1-4 Time to play: 15min-several hours Price: $10
Example of ship.

U.M.R. BATTLE CRUISER

POWER: 25
ENGINE: 5
MAXIMUM THRUST: 4
LASER: 5
PARTICLE LAUNCHERS: 2


S1 On/Off
Hand J2 Controller 1
Hand J3 Controller 2
50 - Pin Connector
Hand J4 Controller 4
Hand J5 Controller 3
J7
Light Pen Connector
Test Connector
U19 (custom) Input/Output
U17 (custom) Address
Power Input
LINE FILTER
Keypad
U18 (custom) Data
C10
U15
U8
U9
U10
U5
U7 Z-80 Chip
U6
U11
U13
U12
U32
U16
Q2
Y1
SHIELD
J6 Game Cartridge Connector
J1
R.F. MODULATOR
HEAT SINK
Q1
JUMPER
Power Supply
VR1
VR2
VR3
VR4
U23
U20
U27
U31
U26
U30
System RAM
U25
U29
U24
U28
U1
U3
System ROM
U2
U4
U22
U21
U14
C6
C1
C8
R3
R1
S2 Reset
Test Connector

Program for "The Black Hole"   BALLY BASIC

The object of this game is to acheve orbit around the mystery spacecraft. You have thruster control for the X and Y axis of traval. The desplay gives you your speed in terms of X,Y traval. The forces of the black hole are contuinously acting on your craft like the pull of gravity. Your thrusters have a force equal to this pull. Get careless, and you will be pulled in. To acheve orbit, you need to be at the same speed and distance from the Black Hole as the mystery ship.

```
1.
2.
3. Black Hole
4. By Ron Picardi
10 CLEAR;CY=0
20 PRINT "  THE BLACK HOLE"
30 FOR A=1 TO1500
40 NEXT A
50 CLEAR;NT =0;&(23)=255
60 BC = 128; FC = 7
70 FOR A = 1 TO 50
80 BOX RND (160)-80, RND (88)
-44,1,1,1
90 NEXT A
91 &(22) = 200; &(18) = 230
; & (16) = 235
92 & (17) =240; & (20) =200
93 BOX 0,0,7,7,1 ; BOX 0,
0,5,5,2
95 G = 0; H = 15; I = -5;
J = 0
96 X =-70; Y = 40; M = 0;
N = 0
100 X = X+M; Y = Y+N
110 IF X>0 M=M-1
111 IF X<0 M=M+1
112 IF Y>0 N=N-1
113 IF Y<0 N=N+1
120 IF X>77 X=-77
121 IF X<-77 X=77
122 IF Y>40 Y=-40
123 IF Y<-40 Y=40
130 BOX X,Y,3,3,3
140 IF G>0 I=I-1
141 IF G<0 I=I+1
142 IF H>0 J=J-1
143 IF H<0 J=J+1
150 G=G+I;H=H+J
160 BOX G,H,8,2,3;BOX G+2,
H+2,1,2,3
170 CX =-75
171 CY=40
172 PRINT #1,M,#4,N
180 IF D#0 BOX X-D,Y-E,1,1,3
190 IFE#0 BOX X,Y-E,1,1,3
191 U=D;V=E
200 D=JX(1); E=JY(1)
210 M=M+D;N=N+E
220 IF D#0 &(21)=255
230 IF E#0 &(21)=255
240 IF D=0 IF E=0 &(21)=0
250 IF X<5 IF X>-5 IF Y<5
IF Y>-5 GOTO 1000
260 IF X=15 IF N=5 IF Y>-10
IF Y<10 GOTO 500
270 BOX X,Y,3,3,3
280 IF U#0 BOX X-U,Y,1,1,3
290 IF V#0 BOX X,Y-V,1,1,3
300 BOX G,H,8,2,3; BOX G+2,
H+2,1,2,3
310 GOTO 100
500 CLEAR; &(21)=0
510 CX =-70
520 CY =40
530 PRINT "IN ORBIT NEAR
THE CYGUS"
532 FOR A =1 TO500
534 NEXT A
535 CLEAR;&(22)=200
536 FOR A=1 TO 50
537 BOX RND(160) -80,RND(80)
-40,1,1,1
538 NEXT A
540 BOX 0,30,15,15,1;BOX 0,30
11,11,2
550 BOX 0,0,100,10,1
555 BOX 50,7,40,10,1
560 BOX 50,-7,40,10,1
```

PICARDI
48603
3/80

```
570 BOX 0,10,140,1,1
580 BOX 0,-10,140,1,1
590 BOX 40,15,8,10,1
600 LINE -70,10,0
610 FOR A=-65 TO 65 STEP 10
620 LINE A,-10,3;LINE A+5,
10,3
640 NEXT A
650 LINE -70,-10,0
660 FOR A=-65 TO65 STEP 10
670 LINE A,10,3;LINE A+5,
-10,3
690 NEXT A
700 FOR A=-75 TO75
710 BOX A,-30,5,5,3
720 BOX A,-30,5,5,3
740 NEXT A
750 FOR A=1 TO 2000
760 NEXT A
770 GOTO50
```

```
1000 CLEAR; BOX 0,0,3,3,1
1010 &(21)=0; &(22)=255
1020 PRINT " LOST IN THE BLACK HOLE"
1021 FOR A=200 tO 0 STEP -4
1022 &(18) =A;&(16)=A;FC =
RND (32)x8 -2
1023 BOX 0,0,201-A,101-A÷2,3
1024 NEXT A
1030 CLEAR;&(22)=0;FC=0
1032 BOX 0,0,3,3,1
1035 FOR A=255 TO 0 STEP-1
1037 BC =A
1038 NEXT A
1040 FOR A=1 TO 1500
1050 NEXT A
1060 GOTO 50
.END
```

If you want to keep a score of your game, add the following to the program. 15 B=0;C=0 97 CX=0 98 CY =40 99 PRINT #1,B,#4,C 505 C=C+1 1005 B=B+1

The b counter will be your loss to the black hole and tne c counter your sucessful orbits

Other options you can try, limited fuel supply,time limit to orbit. Have fun and good luck.

PICARDI
48603

Put in Arcadian

↓

52=445

79-14-3

NOTES ON THE CONCENTRATION GAME

Lines 10-15 presets scores=0 and initial player locations.
Line 20 lets you select a letters or numbers game.
Line 30 sets up to play numbers 0-9, one each.
Line 40 selects 10 letters at random, may be duplicates.
Line 50 puts the letters/numbers (L/N) in random @ locations. Then duplicated the string for the other player.
Line 60 draws each players game board.
Line 80 inits a games variables and prints score.
Line 85 places the player on board. First game in UL corner.
Line 90 begins the game loop. Checks if you are trying to reveal a L/N or make a match attempt. If you are, it goes sub to reveal and check if a match was made. Upon return a check is made if you finished all matched on your board and are ready for another game. If a new game, goes to line 30 to restart.
Line 100 gets new joystick values. If a change, it goes sub to move your marker.
Line 110 ends the game loop and loops back to line 90 again.
Line 120-170 is the move subroutine. Movement is made to stay on the board and return is made to game loop.
Line 180 begins the L/N reveal and match check subroutine.
Lines 180-190 retrieves the X-Y values and figures CX-CY values, and the index into @ is calculated.
Line 195 if that location has been previously matched, if so, return.
Line 196 if still at the location of a revealed L/N, return.
Line 200 reveals the L/N. If it is the first half of a match attempt, the @, L/N, and X-Y values are saved and return made.
Line 210 is checking if second half of a valid match is made. If not, the L/N on board are cleared and return is made.
Line 215 a match is made. Pointers are cleared and scoring made.
Line 220 If all of board is not matched, * is stored in matched L/N boxes and return is made.
Line 230 a game is finished. Winner gets bonus score and musical tones played. Request if want play more.
Lines 240-250 is a loop to determine if another game is to be played. TA(1)=1 is a letter game and TA(2) is a numbers game. Return is made to the game loop then back to line 30 to start new game.
Lines 260-270 is the scoring subroutine.

Notes on play: A match is made up of any number of games [illegible] with all [illegible]. A L/N match gets 5 points and a full board [illegible] bonus points for the player.

The attached listing has been [illegible] and should be exactly as the [illegible] on my machine. Hopefully no bugs left in it.

Sincerely yours,

1

```
  5 .CONCENTRATION
  6 .APPR WINSOR
  7 .15 OCT 79
  10 :RETURN ;NT=1;@(51)=0
;@(52)=0
  15 @(41)=-60;@(42)=20;@(4
3)=15;@(44)=15
  20 CLEAR ;PRINT ;PRINT "
PLAY THIS ONE WITH:";PRINT
 "1 = LETTERS";PRINT "2 =
NUMBERS";K=KP;TV=K;K=K-48;
IF (K<1)+(K>2)GOTO 20
  30 IF K=2FOR A=1TO 10;@(
A)=A+47;@(A+10)=A+47;NEXT
A;GOTO 50
  40 FOR A=1TO 10;@(A)=RND
 (26)+64;@(A+10)=@(A);NEXT
 A
  50 CLEAR ;FOR A=20TO 1ST
EP -1;B=RND (A);@(A+20)=@(
B);@(B)=@(A);NEXT A;FOR A=
1TO 20;@(A)=@(A+20);NEXT A
  60 BOX -40,0,51,41,1;BOX
 40,0,51,41,1;FOR X=-60TO
60STEP 10;FOR Y=-15TO 15ST
EP 10;BOX X,Y,9,9,2;NEXT Y
;NEXT X
```

2

```
  80 @(53)=9;@(54)=9;@(45)
=0;@(46)=0;P=1;GOSUB 260;P
=2;GOSUB 260
  85 BOX @(41),@(43),9,9,1
;BOX @(42),@(44),9,9,1;S=1
  90 FOR P=1TO 2;IF TR(P)G
OSUB 180;IF S=0GOTO 30
  100 H=JX(P);V=JY(P);IF (H
#0)+(V#0)GOTO 120
  110 NEXT P;GOTO 90
  120 X=@(40+P);Y=@(42+P);B
OX X,Y,9,9,3;X=X+H*10;Y=Y+
V*10;IF Y>-16IF Y<16GOTO 1
40
  130 Y=Y÷(-15)*(-15)
  140 D=60;E=20;IF P=1D=-20
;E=-60
  150 IF X>D X=D
  160 IF X<E X=E
  170 BOX X,Y,9,9,3;@(40+P)
=X;@(42+P)=Y;NEXT P GOTO 9
0
  180 X=@(40+P);Y=@(42+P);C
X=X+1;CY=Y;W=X;IF P=1W=-X
  190 L=W÷10+19-(Y-15)÷10*5
;IF P=2L=L-20
  195 M=@(L);IF M=0RETURN
```

79-14-4

3

```
 196 IF @(44+P)#0IF L=@(48
+P)RETURN
 200 BOX X,Y,9,9,2;TV=M;IF
 @(44+P)=0@(44+P)=(X+80)*1
00+Y+40;@(46+P)=M;@(48+P)=
L;RETURN
 210 W=@(44+P)÷100-80;Z=RM
-40;@(44+P)=0;IF M#@(46+P)
BOX X,Y,9,9,1;BOX W,Z,9,9,
2;RETURN
 215 @(50+P)=@(50+P)+5;@(L
)=0;@(@(48+P))=0;S=@(52+P)
;GOSUB 260
 220 IF S#0@(52+P)=S-1;BOX
 W,Z,9,9,2;CX=W+1;CY=Z;TV=
42;CX=X+1;CY=Y;TV=42;BOX X
,Y,9,9,3;RETURN
 230 @(50+P)=@(50+P)+25;GO
SUB 260;NT=7;FOR A=1TO 7;M
U=7;MU=1;NEXT A;NT=1;CY=-3
0;PRINT ;PRINT "WANT TO PL
AY SOME MORE? ",
 240 FOR K=1TO 2;IF TR(K)T
V=K+48;RETURN
 250 NEXT K;GOTO 240
 260 CY=50;CX=20;IF P=1CX=
-60
```

4

```
 270 PRINT "SCORE ",#3,@(5
0+P);RETURN
```

~~5 .DIVISION TO "N"~~

~~6 .DECIMAL PLACES~~

~~7 .APPR WINSOR~~

~~8 .15 OCT 79~~

~~10 PRINT ;PRINT "ANSWER TO X÷Y ?"~~

~~20 INPUT "# DECIMALS WANTED"N~~

~~30 INPUT "INPUT X"X~~

~~40 INPUT "INPUT Y"Y~~

~~50 Q=X÷Y~~

~~60 PRINT "THE ANSWER IS: ";PRINT #1,Q,".",~~

~~70 FOR A=1TO N~~

~~80 TV=RM*10÷Y+48~~

~~90 NEXT A~~

~~100 GOTO 10~~

79-14-5

```
~~270 PRINT "SCORE ",#3,@15
0+P,RETURN~~

  5 .DIVISION TO "N"
  6 .DECIMAL PLACES
  7 .APPR WINSOR
  8 .15 OCT 79
 10 PRINT ;PRINT "ANSWER
TO X÷Y ?
 20 INPUT "# DECIMALS WAN
TED"N
 30 INPUT "INPUT X"X
 40 INPUT "INPUT Y"Y
 50 Q=X÷Y
 60 PRINT "THE ANSWER IS:
";PRINT #1,Q,".",
 70 FOR A=1TO N
 80 TV=RM*10÷Y+48
 90 NEXT A
100 GOTO 10
```

```
  5 .HEX DUMP
  6 .APPR WINSOR
  7 .15 OCT 79
 10 PRINT ;INPUT "FROM WH
ERE TO WHERE"A,U;C=1;PRINT
;PRINT #4,A,":",
 20 S=0;Z=%(A);IF Z<0Z=32
767-ABS(Z)+1;S=1
 25 Y=Z÷256;X=RM;IF S=1Y=
Y+128
 30 GOSUB 70;X=Y;GOSUB 70
 40 A=A+2;C=C+1;IF C>8C=1
;PRINT #4,A,":",
 50 IF A>=UGOTO 10
 60 GOTO 20
 70 X=X÷16;I=RM;GOSUB 90
 80 X=I;GOSUB 90;TV=32;RE
TURN
 90 IF X<10TV=X+48;RETURN
100 TV=X+55;RETURN
```

2/7

Mr. Fabris,

Here is a neat program for you.

"music" of a sort.

```
10 &(21) = RND( )
20 &(16) = RND( )
30 &(17) = RND( )
40 &(18) = RND( )
50 &(19) = RND( )
60 &(20) = RND( )
70 GOTO 10
```

Add value in the ( )

Signed,
Ron Houtman

To Robert Fabris, I just recieved your newsletter and am sending you a updated tape on a few things I've done with the Bally.

Side 1
tape

1-105 Black hole, 1 player game

object; to orbit around the mystery spacecraft and avoid the black hole.

Control functions; number 1 hand control, Keyboard.

left, right, left and right thrusters. Up, down, up and down thrusters. Knob, trigger, no function

the force of the thrusters = the pull of gravity.

Keyboard, selects the difficulty for orbital requirments.

Special Features; when in successful orbit, you have free manuverability of your spacecraft for 1 minute, also, full sound effects, Detailed graphics of the cygnus, Special effects on the palomino when it falls into the "Black Hole".

Desplay Counter; Fuel, Hole score, Orbit score

To orbit, you must go in the same rotation as the cygnus, be out the same distance, and at the correct speed, you need not be alongside the cygnus.

Have fun on a challanging game.

106 to 185 Lunar lander, 1 Player.

Object, land successfully on the moon.

Control function, trigger is your thruster

This is a variation of the Bally demo game with a lot of special effects for bad landings. You can also land on tops of mountains

Game has automatic reset.

185 Waveform Study

Control function Keyboard.

This program allow you to study computer simulation of sine waves. you can select from 3 studies. you can then enter the start location, size of wave, and the spacing

Start is y location, length, step. Press go after each input.

0 returns to menu

There are counters, y location, speed, to keep track of your waves

try the numbers for program 2, 3, start wave at 0, length 4, Step 2, start wave at 10, length 0

Some Comments on Dave Clark's "Space War"

line 210 has a typo Go to 130 should be Go to 30

a Change in line 830 for a better special effect on the warning alarm.

```
830 D=0; YKYY=1 YO=J For H=1 to 10; &(22)=255; For Z=
30 to 0 Step -1; &(18)=Z; Next Z; Next H; O=1
```

new data

too bad there isn't more memory available in the bally to really soup this program up with special effects

You may use the programs in your newsletter if you wish.

Ron Piciardi
630 Bacon Rd
Saginaw, MI
48603
(517) 781-3257

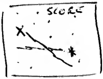
170 Space Race 2 player game 2-7

control, Joystick

UP, down, left, right are thrusters

Knob - aims laser beam

Trigger fires laser



both spaceships behave according to Newtons law of motion

Features limitation of laser power (shots)

score counter

Player 1 is the X

Player 2 is the

move around screen - shoot

this game may be similar to other space wars

Space War, Super Edition (or Battle star Galacia)

2 player

VS Cylon

Player 1 Galicia

Knob aims laser, trigger fires laser.

Sorry, the Galaca is a sitting duck

5 hits needed to destroy Cylon

Player 2 Cylon

left right up down, moves ships

knob aims laser, trigger fires laser.

it takes 20 hits to destroy the Galacia

Game Counter

Galaca Score, Galaca Force field, Cylon forcefield, Cylon Score

Have fun those laser cannons are hard to aim

Side 2   Slot machine

1-93   tr (1) operates handle

Keybord 1,6,7, 8, 9 are for testing Press key

Winners are, 3 of a kind, Jackpot
2 of a kind winner

4 types of charater on the
left hand win

you start with 1000. win and lose
change money at random amounts
counters
Center money
left hand wins   Right hand lose

If money is less than 0 it shuts down
If money Exceeds 30,000 the machine
goes broke and shuts down

94 Morse Code   Speed 7 use 2 or 3

Print message on keys including spaces etc
also numbers, periods and commas
then press ~~[illegible]~~ to run Message
Words Run

press 0 to return to Menu
Press 1 then message for new Message

You may enter a message up to 250
keystrokes on this program
then press Words Run to start your message.   52 = 476
comment, the Bally is a slow, faster code reader.

CUSTOM BUSINESS PROGRAMMING
713 Bradford Drive
Fort Walton Beach, Florida 32548

WETZEL-COLLINS, INC.
(904) 242-8195

April 15, 1980

Dear Bob,

Enclosed please find $100 for 4 salvaged Bally printed circuit boards.

Ricky, Braddon Ron, Guy Spitale and myself are all waiting for these boards. We hope to use them in some of our experimentation.

As I told you on the phone, I have been writing some more programs, but have been awaiting the reviews of Steve Wilson before I sent them in to you. I have also been waiting on my printer to make listings. I am still waiting, but it should not be much longer.

S

I would appreciate if you could advertise the programs I have for sale again. If only one program is selected, it will cost $6 on my tape, $8 for 2 programs, $9 for 3 programs or $10 for 4. If they would like a listing of the operational instructions and some information on the programs, I will furnish same if they send a self-addressed stamped envelope. This way they can get some idea about the programs before they send money.

Ad

I am enclosing a sample of the operational instructions for two of the new programs. The programs that I have written are as follows:

(over)

1. Checkers
2. Chessboard
3. Hangman
4. Bowling
5. Bally's Alley (an adventure program)
6. O-hello
7. Inspector Clue-so
8. Decade

Keep up the good work.

Sincerely,

John A. Collins

O-HELLO

SIMILAR TO OTHELLO. BY JOHN A. COLLINS
THE OBJECT OF THIS GAME IS TO HAVE THE MOST PIECES ON THE BOARD AT THE END OF THE GAME.TO ACCOMPLISH THIS YOU MUST PLACE ONE OF YOUR PIECES WHERE YOU WILL HAVE ONE OR MORE OF YOUR OPPONENT'S PIECES INBETWEEN YOURS. THERE ARE EIGHT DIRECTIONS IN WHICH YOU CAN SANDWICH YOUR OPPONENT,SOUTH , EAST, WEST,NORTH ,NORTHEAST,NORTHWEST,SOUTHWEST,SOUTHEAST.YOU SELECT YOUR PLAYING PIECES'S SPOT BY MOVING THE BLIP WITH YOUR TRIGGER.ONCE YOU HAVE ONE OR MORE OF YOUR OPPONENTS PIECES BETWEEN TWO OF YOURS THEY BECOME YOUR PLAYING PIECES.THERE ARE THREE WAYS TO PLAY THIS GAME(1) YOU AGAINST AN OPPONENT OR(2) YOU AGAINST THE COMPUTER OR(3) BALLY VS ITSELF.YOU CAN SELECT WHETHER YOU WOULD LIKE TO USE THE TRIGGER OR THE KEYBOARD.

INSPECTOR CLUE-SO

INSPECTOR CLUE-SO CAN BE PLAYED BY ONE PERSON ONLY.SOMEONE HAS BEEN MURDERED AND YOU ARE SUPPOSED TO FIND OUT (1)WHO THE KILLER IS (2) IN WHICH ROOM OF THE HOUSE WAS THE PERSON KILLED AND (3)WHAT TIME THE PERSON WAS KILLED.
YOU DO THIS BY ASKING QUESTIONS TO THE FIVE SUSPECTS (1)JOHN,(2)MARY,(3)LISA,(4)CATHY,AND(5)SCOTT.
THE QUESTIONS YOU MAY ASK ARE
(1)WHEREABOUTS AT HOUR--(YOU FILL IN HOUR LATER)
(2)HOUR SUSPECT IN -- ROOM(YOU FILL IN ROOM # LATER)
(3)CRIME IS SOLVED HERE YOU TELL THE BALLY WHAT YOU HAVE FIGURED OUT OR IF YOU GIVE UP BUT YOU'D BETTER WATCH OUT IF YOU MAKE A WRONG GUESS YOU'LL BE MARKED AS A BUMBLING IDIOT

Rob Rosenhouse
44 Forest Brook Drive
North Plainfield, NJ 07060

Dear Mr. Fabris;

Please include the following ad in the Arcadian™:

Super Software by Rob Rosenhouse. Space Games, Gambling games and Much More. Write for program descriptions and free 'RND art' program. write: Rob Rosenhouse, 44 Forest Brook Drive, North Plainfield, NJ., 07060.

Also, send me Greater details on projects one thru four,

Thanks,

Rob Rosenhouse

ad

Bob

an improvement to your tight slot machine, P.21, vol 2. I hit jackpot twice in a row, probably with all 3 rnd(10)'s set to rnd(4)'s (no cherries that way)

Harry L. Hanson
12132 SITKA #12
El monte, CA 91732

I feel that "The Cursor" is a rag with a perpetual bone to pick.

Ad

2.95 set incl instructions

Orders for the tags should be sent to my address:

Videocade Tags
304 N.E. 55th
PORTLAND ORE. 97213

If there are any other interests or questions about the tags please forword then to me. Thankx

Sincerly,
Roger Saunders
WORK PHONE (503) 644 0161 x7093
HOME PHONE (503) 238-5796

P.S. Don cut one of the sets for you.

2 May 1980

Dear Mr. Fabris,

Enclosed is an ad for your newsletter, The Arcadian:

For Sale Bally Arcade with Star Battle, Baseball, Football, MATH, Letter Match Panzer Attack, Seawolf, Clowns and Basic cartridges and cassette interface. $400 or best offer. John Jacobson Drawer F, Summersville, WV 26651 304-872-5994.

Mr Fabris, I originally bought the Bally because I believed the advertising of JS+A regarding the future add on unit. I had hope to be able to expand into basic home finance, checkbook type programs, budget, financial analysis of my office practice etc. However, obviously this has not worked out. Do you really think any add on memory-keyboard type unit will ever be commercially developed? I'd like to keep the Bally as the games are very good, but I'm beginning to despair of much future expandability except by hobbyists. I do have a basic electronics back ground and am a ham, but don't have a lot of time to work on setting up much hardware.

Anyway, Just a few frustrations of a Bally owner - hence the ad.

By the way, I sent a $20 check back in December, for back issues and the current year Sub. However, I failed to receive volume I, and have not received issues 1,2, and 4 of volume 2. Please send these along.

Thank you very much

Sincerely,
26651 JCOB 000 F
John Jacobson
PO Box F
Summersville, WV
26651

Dick Houser

Bob

Including in this enevelop are the following items:

- ✓ Letter about catalog I want to put togather.
  Also sent to Fred Cornett
- ✓ Hardware Review - The Computer Ear
- ✓ Larry Camnitz Reviews by Bill Rueger
  Call I need Larry's Address to reply
- ✓ Notes on Subroutine + For Loop Push-Down/Pop-up
  by A.P. Winsor.
- ? ✓ Concentration by A. P. Winsor
- ✓ Ads for George Collins
- ✓ Tutorial Review +, DMA Graphics
- use ink ✓ Program Reviews - Artillery Battle
- ✓ have these been sent to author? Starfire
- ✓ Fee schedule for Tape copies of Arcade Programs

Blank Forms

- Bally Cassette Review
- Program Description
- Bally Program Review
- Bally Producer's Info Form

I will be in Washington DC from the 20th to the 26th.

Dick

Tutorial Review by R.M. Houser

DMA Graphics by C. J. Anderson is a tutorial on Direct Memory Addressing (DMA) when using graphics on the Bally Arcade. This tutorial discusses the use of DMA in producing outstanding graphics. It includes several programs and a table to use in making up graphic blocks to produce graphics and animation. This tutorial would be a great help to those programmers and innovators who don't know how to do these graphic routines. This tutorial can be ordered from Anderson Research and Design 1611 Lacola Lane Burnsville, MN 55337 for $3.00 to cover duplication and mailing costs. To those who order this tutorial, please send in some of your finished routines or make them available to all Arcadians on tape.

do I have this?

2-7

To all Software and Hardware Producers

I'm interested in putting a free yearly catalog out on Bally Software and Hardware to all known owners of Bally machines. ~~subscribers (≈5000) of the ARCADIAN and >CURSOR~~. This ~~would be a~~ catalog will contain~~ing~~ a description of the program, and or hardware, and manufacturer's address ~~and~~ prices. The cost to you would be dependant on the size of your product description, # of issues printed, mailing charge and typing and/or formatting charge. A rough guess would be about $195 for a full page. If you are interested please give me a call at (415) 447-8493 evenings. I would like to put out the catalog in early September.

AD Richard M. Houser 635 Los Alamos Ave Livermore, CA 94550

Any comments etc. on a catalog would be welcome.

Price is calculated for 5000 catalogs of 20 pages —

printing cost for 100,000 pages is 1¢ page or	$1,000
postage charges for 5,000 catalogs is 50¢ ea or	$2500
formatting charge 20 pages at $20 page	$400
Total cost	$3,900

this would be $3900/20 pages of Ads = $195 per page

P.S.

To Bob and Fred

This would include a free page for each of you in return for your mailing lists.

I will be willing to mail this catalog to my total list of people - I pull on labels.

print

need cost.

49.95

Hardware Review by R. M. Houser

Product: The Computer Ear
Mfr: Anderson Research and Design
Address: 1611 Lacota Lane Burnsville, MN 55337
Price: 49.95 ? call

Description of Device

The Computer Ear is a speech recognition input device for the Bally Arcade. The unit consists of a microphone and electronics which produces a signal which is dependent on the speech input. This signal is then fed into the number four port via an optical coupler and digitized and stored in the Bally. Several different speech inputs may be stored by this method and later be compared to a real time input and be deciphered. If a comparison is made a signal is produced by the software which can be used in a program.

As speech recognition units are not an exact science, this unit is not a finished product but its potentialities are vast for the person who wants to experiment. The documentation provided is excellent in regard to the use of the unit. The exact values used for the parameters in the programs must be arrived at by experimentation using the Computer Ear and the software provided.

The Computer Ear is well designed mechanically as well as electrically. and I think the unit is a good buy at for those of you who want to experiment with speech recognition.

pint

Source Code JP___ Cassette Code 1________ Program Code ____________ BPRF4

BALLY PROGRAM REVIEW

Date:__________
Name of Program: Artillery Battle ____________ Cassette Name____________
Description: Artillery Duel between two players
Source: John Perkins ____ Price______
Reviewed by: R M Houser __________________________________ Age: 42

Circle score for each item 0 1 2 3 4 5 6 7 8 9 on scoring line.

PROGRAM DOCUMENTATION (PD)

No Instructions 0 1 2 3 4 5 6 7 8 [✓ 9] Very Clear Description
Listing, Flowchart, Instructions

PROGRAM POLISH (PP)

Sloppy, Amateurish 0 1 2 3 4 5 6 [✓ 7] 8 9 Professional

USE OF SPECIAL FEATURES (USF)

Minimal Used 0 1 2 3 4 5 6 7 [✓ 8] 9 Great Use of Features
Graphics, Sound, Handles

LEVEL OF CHALLENGE (LC)

Not Challenging 0 1 2 3 4 5 6 [✓ 7] 8 9 Very Challenging

ORIGINALITY AND CREATIVITY (OC)

Adapted, Same Old Stuff 0 1 2 3 4 5 6 [✓ 7] 8 9 Totally Brilliant and Unique

LEVEL OF INTEREST (LI)

Boring 0 1 2 3 4 5 6 [✓ 7] 8 9 Fascinating

EDUCATIONAL VALUE (EV)

Little 0 1 [✓ 2] 3 4 5 6 7 8 9 Really Learn Facts
and Skills

EASE OF USE (EU)

Arkward, Inconvenient 0 1 2 3 4 5 6 7 8 [✓ 9] Easy, Quick, Convenient

OVERALL VALUE (OV)

Almost Worthless 0 1 2 3 4 [✓ 5] 6 7 8 9 Everyone Should Buy pid

Source Code TH Cassette Code __________ Program Code ______________ BPRF4

BALLY PROGRAM REVIEW

Date: April 13
Name of Program: Starfire Cassette Name__________
Description: Shoot down Alien Ships without getting hit.
Source: Seebree's Computing 456 Granite, Monrovia CA 91016 Price 6.50
Reviewed by: R.M. Houser Age: 42

Circle score for each item 0 1 2 3 4 5 6 7 8 9 on scoring line.

PROGRAM DOCUMENTATION (PD)

No Instructions 0 1 2 3 4 5 6 7 8 [✓ 9] Very Clear Description Listing, Flowchart, Instructions

PROGRAM POLISH (PP)

Sloppy, Amateurish 0 1 2 3 4 5 6 7 [✓ 8] 9 Professional

USE OF SPECIAL FEATURES (USF)

Minimal Used 0 1 2 3 4 5 6 7 [✓ 8] 9 Great Use of Features Graphics, Sound, Handles

LEVEL OF CHALLENGE (LC)

Not Challenging 0 1 2 3 4 5 6 7 8 [✓ 9] Very Challenging

ORIGINALITY AND CREATIVITY (OC)

Adapted, Same Old Stuff 0 1 2 3 4 5 6 7 [✓ 8] 9 Totally Brilliant and Unique

LEVEL OF INTEREST (LI)

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EDUCATIONAL VALUE (EV)

Little 0 1 [✓ 2] 3 4 5 6 7 8 9 Really Learn Facts and Skills

EASE OF USE (EU)

Arkward, Inconvenient 0 1 2 3 4 5 6 [✓ 7] 8 9 Easy, Quick, Convenient

OVERALL VALUE (OV)

Almost Worthless 0 1 2 3 4 5 6 [✓ 7] 8 9 Everyone Should Buy print

Source Code W C P Cassette Code L Program Code L BPRF4

BALLY PROGRAM REVIEW

Date:
Name of Program: O-JELLO Cassette Name O-JELLO
Description: REVERSI GAME - "Othello"
Source:
Reviewed by: B M Houser Price
Age: 41

Circle score for each item 0 1 2 3 4 5 6 7 8 9 on scoring line.

PROGRAM DOCUMENTATION (PD)

No Instructions 0 1 2 [✓ 3] 4 5 6 7 8 9 Very Clear Description
Listing, Flowchart, Instructions

PROGRAM POLISH (PP)

Sloppy, Amateurish 0 1 2 3 4 5 6 7 [✓ 8] 9 Professional

USE OF SPECIAL FEATURES (USF)

Minimal Used 0 1 2 3 4 5 6 7 8 [✓ 9] Great Use of Features
Graphics, Sound, Handles

LEVEL OF CHALLENGE (LC)

Not Challenging 0 1 2 3 4 5 6 7 [✓ 8] 9 Very Challenging

ORIGINALITY AND CREATIVITY (OC)

Adapted, Same Old Stuff 0 1 2 [✓ 3] 4 5 6 7 8 9 Totally Brilliant and Unique

LEVEL OF INTEREST (LI)

Boring 0 1 2 3 4 5 6 7 [✓ 8] 9 Fascinating

EDUCATIONAL VALUE (EV)

Little [✓ 0] 1 2 3 4 5 6 7 8 9 Really Learn Facts
and Skills

EASE OF USE (EU)

Arkward, Inconvenient 0 1 2 3 4 5 6 7 8 [✓ 9] Easy, Quick, Convenient

OVERALL VALUE (OV)

Almost Worthless 0 1 2 3 4 5 6 [✓ 7] 8 9 Everyone Should Buy

Program Reviews by R.M. Houser

program included

Artillery Battle is a two player game in which each player in turn shoots at the person's artillery piece and tries to destroy it. The angle of firing, plus the amount of powder used is varied by use of the hand controls.

delete

Starfire uses a user defined subroutine to generate an enemy spacecraft, enemy refueling station and a meteor/planet. The object is to fire a laser at these targets and avoid being hit by return laser fire. Many ideas used in this program can be used in more innovative programs.